

PBDE Chemical Action Plan Advisory Committee
Draft Meeting Notes
August 25th, 2004

The fourth meeting of the PBDE Chemical Action Plan Advisory Committee was convened in Tacoma, Washington. A copy of the agenda is included as Attachment #1*.

The following Advisory Committee members attended the meeting:

Bob Campbell (for David Sanders), Bromine Science and Environmental Forum
Greg Dana, Alliance of Automobile Manufacturers
Sego Jackson, Snohomish County
Susan Landry (for David Sanders), Bromine Science and Environmental Forum
Craig Lorch, Total Reclaim
Mo McBroom, WashPIRG
Tom McDonald, Cal EPA
Mary Ann O'Hara, Maternal-Child Health and Public Health
Mel Oleson, Boeing
Ivy Sager-Rosenthal, People for Puget Sound
Gary Smith, Independent Business Association
Dale Swanson, Matsushita Kotobuki Electronics
Laurie Valeriano, Washington Toxics Coalition
Allen Wolk, Washington State Fire Marshall's Association

The following members of the PBDE Steering Committee presented information and participated in the advisory committee discussion:

Robert Duff, Department of Health
Denise LaFlamme, Department of Health
Cheri Peele, Department of Ecology
Ted Sturdevant, Department of Ecology

In addition, representatives of the following government groups signed in:

Joanne Bonnar Prado, Department of Health
Alice Chapman, King County
Leatta Dahloff, Department of Ecology
Michael Kennedy, City of Tacoma
Rick Manugian, Department of Ecology
Will Perry, Seattle/King County Public Health
Alex Stone, Department of Ecology
Steve Whittaker, Labor and Industries

The following stakeholders and members of the public attended the meeting:

Nancy Dickeman, Washington Physicians for Social Responsibility
Mark Greenberg, American Chemistry Council
Bre Holt, Healthy Mothers Healthy Babies

Kristina Logsdon, Washington Toxics Coalition
Suellen Mele, Washington Citizens for Resource Conservation
Kim Radtke, Healthy Mothers Healthy Babies
Gretchen Snoey, Washington Toxics Coalition
Nancee Wildermuth, Alliance of Automobile Manufacturers

Marc Daudon facilitated the meeting and Marley Shoaf took notes.

Convene and Welcome

Marc Daudon welcomed the committee to the fourth PBDE advisory committee meeting. The purpose of the meeting was to review Ecology/Health draft recommendations for the PBDE chemical action plan and to share stakeholder perspectives on these recommendations. Ecology will consider input from today's meeting as they continue to prepare the draft action plan, which will be distributed for public comment on September 15th. Marc reviewed advisory committee member and public expectations. Ted Sturdevant and Robert Duff participated in the advisory committee meetings as representatives of the steering committee.

Cheri Peele thanked the group for the time and energy they put into the PBDE chemical action plan process. She explained that Ecology's goal is to come up with solutions and recommendations in a fair and transparent manner. She emphasized that the recommendations are in draft form and that Ecology is seeking input on them. Every level of the agency has been involved in the plan process since the last advisory committee meeting on August 11th. The following agency groups have met to work on the plan:

- **Technical Committee meeting** (6 hours)
(Ecology program staff, Department of Health, and Labor and Industries)
- **Steering Committee meeting** (2.5 hours)
(Ecology's Assistant Director, Legislative Affairs Director, Public Affairs Director, Ecology Program Managers including Air Quality, Water Quality, Solid Waste, Hazardous Waste, Toxics Cleanup, Environmental Assessment, and the Department of Health's Director of the Office of Environmental Health Assessment)
- **Senior Management meeting** (2 hours)

Key Conclusions and the Process for Drafting Recommendations

Cheri described Ecology/Health's process for developing the draft recommendations for the chemical action plan. Her presentation is included in Attachment 2*. She explained that Ecology used the criteria presented in previous meetings, as well as their Agency objectives and language from the Governor's Executive Order to guide their draft recommendations. She explained that Ecology considered options that fall into one of four categories: 1) source control, 2) non-point source control, 3) end-of-pipe, and 4) cleanup.

Ecology's process to develop the recommendations included assessing the certainties and uncertainties associated with the environmental and health risks of penta, octa, and deca. Specifically, Ecology considered whether or not the weight of evidence shows that penta, octa, and deca are substances of concern to the extent that Ecology should take prudent steps to prevent them from entering the environment. Ecology determined that penta and octa are persistent, bioaccumulative, and toxic compounds that are increasing exponentially in the environment, and are linked to adverse human health effects. Ecology determined that the uncertainties associated with penta and octa are the lack of data characterizing their presence in Washington State and the lack of understanding of exposure pathways. Ecology concluded that deca breaks down into harmful congeners in lab conditions, is present in the environment and humans, is less toxic than penta and octa, and is capable of long-range transport. Ecology stated that there are a lot of uncertainties associated with deca including its breakdown products, the toxicity of its breakdown products, its potential developmental neurotoxicity, and the lack of data characterizing its presence in Washington State. Based on available information, Ecology concluded that penta, octa, and deca present a cause for concern.

Committee comments on Ecology's conclusion:

- One committee member pointed out that industry's phase-out of penta and octa was due to the development of better performing products, not because penta and octa were presenting human health or environmental risks. He also suggested that Ecology does not have all the scientific literature related to anaerobic and photolytic degradation. Ecology said that they do have the relevant studies and have taken them into consideration.
- One member said that the conclusions that Ecology has made regarding deca are erroneous and not based on facts.
- One member pointed out that studies from PBDEs in dust should also be added to the list of "what we know."
- Ecology stated that they consider lab studies in which PBDEs break down in the presence of solvents to be relevant because similar situations could occur in the natural environment, as in landfills.

Recommendations for Source Control

Cheri presented Ecology's draft recommendations and rationale related to the following questions. The recommendations are presented in Attachment 2*.

- 1. What should Ecology/Health recommend regarding the use of penta and octa in new products manufactured or sold in Washington State?**
- 2. What should Ecology/Health recommend regarding the use of deca in products manufactured or sold in Washington State?**

Questions/clarification:

- Ecology verified that deca is the compound recommended to be banned in electronics.

- Ecology clarified that the rationale for the 2008 date for the ban of deca was meant to provide businesses with time to comply with the ban. (The recommended date for banning penta and octa is 2006 and Ecology stated that waiting two years to ban deca may help businesses with compliance.)
- “New products” refers to PBDE chemicals as well as products containing PBDEs.
- Ecology clarified that their approach and draft recommendations will stay the same even if the European Union’s Restriction on Hazardous Substances (RoHS) ban is repealed.
- Consumer electronics include products such as televisions and computers, not electronics found in cars.

Committee responses to draft recommendations for source control:

- **Recommendations are judicious.** Some committee members said that the recommendations were judicious and represented a middle ground between industry and environmental interests. Some members would like to see stronger recommendations, while other members felt the recommendations were too strong.
- **Banning of deca.** Several committee members support the recommended ban on deca in electronics. Other committee members strongly oppose the recommended ban. Some members urged Ecology to ban deca in all products, particularly household products such as textiles. Members opposing the ban pointed out that there is more testing on deca than any other flame retardant, and that the testing shows it is safe. They also pointed out that banning deca will result in the use of less studied alternatives. A committee member stated that the studies used by the bromine industry are dated and have typically been conducted only through 2001. Some members would like the ban of deca to take place sooner than 2008. One member suggested that Ecology should state that their ban on deca is a precautionary approach to dealing with the potential risks from this chemical; Ecology agreed.
- **Ban on octa and penta.** Some members suggested that if there was going to be a ban on deca, then it makes sense to ban octa and penta since they are the most toxic forms of PBDEs.
- **Identifying products containing deca.** Some members questioned how businesses will determine if products contain deca. Ecology stated that they understand that this is a very difficult issue and they will be addressing it.
- **Cost of recommendations should be considered.** One member pointed out that Ecology needs to consider the cost of implementing the draft recommendations.
- **RoHS ban.** One member pointed out that although manufacturers agreed to phase out deca because of the RoHS, the ban may be repealed and manufactures in Europe will go back to using deca. Other members disagreed that manufacturers would go back to deca.

- **SNUR timeline.** Several members support EPA's quick development of the SNUR to ban penta and octa import. Some members were concerned about the SNUR timeline and did not want Ecology to wait for EPA to take action on the ban of penta and octa. One committee member suggested that Ecology take action by 2006, regardless of EPA's action.
- **Consider the impact of a ban on fire safety.** One committee member said that Ecology has not considered the potential impact that banning PBDEs would have on fire safety.

Ted Sturdevant provided further explanation of Ecology's rationale for the draft recommendations. He said that evidence shows that deca is increasing in the environment and that recent evidence suggests that it is debrominating. With those two things combined, Ecology has chosen to draft a prudent policy. Ecology will continue to learn more in the future and is choosing to take a precautionary approach to addressing potential health and environmental risks associated with deca.

Recommendations for Non-Point Source Control and End-of-Life

Cheri presented Ecology's draft recommendations and rationale in response to the following questions. The recommendations are presented in Attachment 3*.

1. **What policy(ies) should Ecology/Health recommend with regard to PBDE's in products at end-of-life?**
2. **What should Ecology/Health recommend regarding reducing human and environmental exposure to penta, octa, and deca in products in homes, offices, cars, etc.?**

Questions/clarifications:

- The recommendation for what Ecology/Health should do regarding exposure to products in homes, offices, and cars should include penta, octa, and deca – not just octa and penta as it was written in the presentation.
- Ecology/Health clarified that they are considering PBDEs a risk, based on data gathered from animal toxicity studies, particularly rodent studies that show endpoints that would be a concern to humans. Ecology will clarify their meaning of risk in the recommendations.
- One member provided occupational exposure limits for PBDEs of 5mg/m³ (American Industrial Hygiene Association) and 0.14mg/m³ for octa (Great Lakes Chemical Corporation).

Comments on the recommendations for non-point source control and end-of-life:

- **Recycling issues.** One member pointed out that Ecology should be clear if they are intending to ban PBDE products from recycling and that it should be clearly stated. Some members suggested that Ecology should recommend ways to reuse products as they cycle out of the system during the ban. They recommended a system similar to what was done with CFCs.

- **Identifying PBDE products in the waste stream is resource intensive.** Some members stated that other countries and states have spent a lot of time, money and effort to identify products with PBDEs and that the efforts have not been very successful. Some members also asked who will be responsible for identifying PBDE-containing products. One member stated that there needs to be a threshold or better wording established for the amount of PBDEs that can be left in a product.
- **Special waste category.** Concern was raised over the establishment of a special waste category.
- **Occupational exposure monitoring.** One member said that Ecology should recommend that monitoring only occur when they know for sure that there is a problem. Another member stressed the importance of L&I and Ecology/Health working together so that Ecology/Health are not developing occupational rules separate from L&I.
- **Disclosing the presence of deca in products.** One member said that disclosing what is in products can put businesses at a competitive disadvantage. Another member pointed out that some overseas producers often leave out information from their MSDS, including the presence of PBDEs, and he questioned how Ecology would approach this situation.
- **Cost analysis of the recommendations should be considered.** Some members questioned the lack of a cost analysis in the recommendations. Ecology explained that they are under tight timelines and that considering costs will be their next step.
- **Data gathering from incineration.** One member would like Ecology to collect data from the Spokane incinerator and the Tacoma incinerator, if it re-opens.
- **Goods purchased on State contracts.** One member pointed out that the GA should specify that goods purchased on State contracts should not contain penta, octa, and deca. It is currently recommended only for penta and octa. She would also like the GA to establish criteria that moves them away from persistent, bioaccumulative, toxic chemicals.

Recommendations for Monitoring and Research

Denise Laflamme presented Ecology/Health draft recommendations for monitoring and research strategies. Her presentation is included as Attachment 4*. Denise also presented the committee with two current biomonitoring efforts. The CDC, as part of the National Health and Nutrition Examination Survey (NHANES) will start sampling PBDEs as part of their biomonitoring efforts. The data will only be presented on a national level and will not be presented at the State level. The second effort is the Washington biomonitoring plan which is a grant awarded by the CDC that includes PBDE biomonitoring. Denise explained that the program is currently under-funded.

1. What monitoring/research strategy should Ecology/Health recommend with regard to PBDEs?

Clarification/comments:

- Ecology/Health have not looked at the cost of the proposed biomonitoring, but plan to do so. They will also collaborate and seek support from L&I, NIOSH, and the CDC.
- In response to a committee member comment, Ecology will clarify what they mean by conducting research “to minimize unintended consequences of information delivery.”
- Ecology has not developed a specific plan for biomonitoring, but will look to the methods developed by NHANES and others for methods.
- Ecology will include brominated dioxins and furans on their list of incineration emission testing.

Comments on the recommendations:

- **Detecting the presence of deca may be difficult.** One committee member said that the presence of deca may be masked by penta and octa and will be difficult to detect. He questioned why Ecology wants to do biomonitoring now when they cannot easily differentiate between penta, octa, and deca.
- **Testing of all media is important.** One committee member said that it was important to test several media such as sediment, marine mammals, and effluent from sewage treatment plants and other NPDES dischargers. (Ecology explained that testing for deca is very expensive and that the cost will be a big factor in the extent of testing possible). One member urged Ecology to focus monitoring efforts where they will get the best measurements of exposure, such as chord blood. She also suggested that Ecology should specify exactly who will be monitored, rather than just saying “people at risk.” One member urged Ecology to look at brominated dioxins and furans from incinerator emissions, as well as biosolids.
- **Multi-agency coordination is important.** Some members would like to see coordination among agencies. One member was concerned about extensive studies by the EPA in the Hood Canal that did not include analysis of PBDEs. She would like more coordination efforts.
- **Funding should not be the deciding factor.** One member pointed out that funding should not dictate Ecology’s recommendations. She acknowledged that the recommendations cannot be implemented all at once, but that having recommendations now, is a good practice and will drive future studies.
- **Ecology should provide PBDE information to the public.** One member said that the more that the public understands about PBDE issues and the lack of available funding, the more likely the legislature and public will be to get funding for the future.

- **Concern over occupational biomonitoring study.** One member questioned how Ecology will choose which businesses will be a part of biomonitoring studies. He was concerned that businesses will be labeled as high exposure workplaces and could potentially go out of business. He would like more clarification on which occupations would be chosen for the biomonitoring study. One member suggested that the study should be voluntary and paid for by the government, not businesses.
- **Need for a benchmark for risk.** One member said that Ecology/Health should have a benchmark or number to define what they consider a risk. He said that if Ecology is going to start measuring PBDE levels in people, they need to determine what the “at risk” level will be.
- **Need for continued safety standards.** One member pointed out that he does not want to see fire safety standards decreased. He would like a research strategy that includes examining the impact that phasing out of fire retardants might have on the severity of fires. He said there was a trend in Europe showing increased fires as flame retardants were removed from products.
- **PBDEs need to be prioritized with other Agency issues.** One member said that Ecology needs to consider the importance of PBDEs relative to other agency efforts. He stated that Ecology may have higher priority issues than PBDEs and resources should be allocated to those issues first.
- **Use of naturally inherent flame resistant products is important.** Some committee members urged Ecology to research naturally flame resistant products and conduct research on the extent to which flame retardant materials are truly needed.

Additional Recommendations

Cheri presented Ecology’s draft recommendations to address the following questions. Her presentation is included in Attachment 5*.

1. **How can Washington State use this issue to keep our companies globally competitive?**
2. **What else should be done to address this problem?**

Clarification/comments:

- One member asked at what point representatives of business were involved in these recommendations. Ecology explained that the recommendations are a result of previous advisory committee meetings in which business industry representatives were present and provided input.

Comments on recommendations:

- **Working with research institutions and manufacturers may be inappropriate.** Some members questioned the constitutionality of the State helping businesses to work with research institutions to commercialize “clean” production technologies.
- **Establishing an institute for “clean” design is important.** Several members said that alternatives in the design phase are important to research and develop.

- **Who should look at broader PBT issues?** Some members felt that issues dealing with PBTs in general should be considered by the PBT working group and not the PBDE advisory committee. Other members disagreed and stated that PBDEs are PBTs and these recommendations should be considered in this process.
- **Redundancy of efforts.** One member said that Ecology does not need to join the International Consortium for Fire Safety, Health and the Environment. A couple members said that the Toxics Exposure Reporting and Tracking Review (TERT) panel is redundant and that the State already has the Pesticide Incident Reporting and Tracking Review (PIRT) panel so it will not be useful.
- **None of the recommendations are beneficial to business.** One member said that none of the recommendations proposed in the final presentation are beneficial to business. He stated that helping businesses includes reducing taxes or fees, reducing training requirements, reducing regulation, reducing paperwork, reducing uncertainty, and being consistent with the federal government. He does not think these recommendations provide any of these benefits. Another member pointed out that the recommendations presented for source control, non-point source control, and end-of-life issues proposed by Ecology are designed to help business. Ecology responded to these comments by saying that it is interested and open to recommendations that are beneficial to business and welcome suggestions.
- **Track electronic waste recycling bills.** One member said he does not agree with this recommendation, while other members felt that it was a good recommendation. One member pointed out that the language for this recommendation should read “PBDE capture and proper management” rather than “PBDE capture and recycling.”
- **Revising the Toxic Substance Control Act (TSCA).** One member would like to see TSCA reformed and suggests a chemical polity that phases out substances, includes right-to-know provisions so that the public is informed, acts on early warnings, and requires comprehensive safety data for all chemicals.

Public Comment

Kim Radtke – works for Healthy Mothers, Healthy Babies and is the Program Coordinator for the Breastfeeding Coalition of Washington. She suggests mandating the TERT panel to provide information to health care professionals. She urged Ecology to consider literacy issues as well as people who do not speak English as a first language in their outreach efforts.

Mark Greenberg – Representing the American Chemistry Council. Suggested that additional recommendations that relate to PBTs and not specifically PBDEs should be dealt with by the PBT group.

Suellen Mele – Washington Citizens for Resource Conservation. She has been active in electronics recycling issues and supports ban of PBDEs in electronics and the ban of deca in all products. She said there are many alternatives created from the RoHS directive and that innovation comes from bans. Supports testing of biosolids, leachate, and incineration emission including brominated dioxins and furans.

Nancy Dickeman – Washington Physicians for Social Responsibility. Urged Ecology to look at the Executive Order for direction and not wait for the EPA to take action. She supports tight timelines and a broader ban on PBDEs, such as in upholstered furniture.

Project Timeline

Cheri presented the Ecology/Health timeline for completing the plan. This timeline is included in Attachment 6*. Ecology will determine how to incorporate advisory committee comments and previously submitted materials into the final plan. Some members stated that they would like Ecology to include a summary of advisory committee positions in the plan. Other members felt that this would be confusing to the public and that comments should go into the public comment document. Some members would like Ecology to develop an attachment to the final plan with alternative points of view presented by the advisory committee. One member suggested that the plan should include all the science and data that the advisory committee provided to Ecology. Other members said that the data could be summarized or referenced in the final plan. Ecology has been working on the best method to incorporate committee member comments into the plan and will let the committee know their final decision.

Meeting Feedback

- Several committee members thanked Ecology/Health for their hard work and efforts in this process. Several members said that committee comments were fairly considered and incorporated into the plan. Members also appreciated how Ecology/Health framed the issues and presented their ideas.
- Facilitation process was good.
- One member would like Ecology to distribute contact information for the Advisory Committee members.

Meeting Adjourned